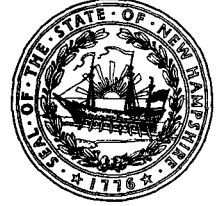




The State of New Hampshire  
*Department of Environmental Services*



Michael P. Nolin  
Commissioner

April 28, 2004  
**Letter of Deficiency**  
DSP#04-023

Mr. William Dickerman  
Headmaster  
Hampshire County School  
122 Hampshire Road  
Rindge, NH 03461

RE: Island Pond Dam #203.10, Rindge

Dear Mr. Dickerman:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that play a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on November 5, 2003. During this visual inspection and/or file review, the following is the status relative to our 2000 Letter of Deficiency:

1. Remove the trees/brush from within 10 feet of the toe of the downstream block wall to facilitate inspection of this area. Upon completion of removal of the trees/brush inform this office to schedule a follow-up inspection. **This has been completed with limited re-growth of brush and small trees and inspection of the downstream toe of the dam was conducted at the time of this inspection;**
2. Remove the trees/brush from both the upstream and downstream embankments of the dike adjacent to Timbertop Road and within 10 feet of each abutment of the dike. **This has been conducted with limited re-growth of small trees and brush;**
3. Due to the previously stated hydraulic analysis and the dam's inability to pass the anticipated design storm, reconfigure the low level outlet so that it may be operated by hand during emergencies as may be necessary. **This has not been completed and is well overdue;**
4. Complete a plan for the replacement of the low-level outlet pipe or possibly slip-lining the pipe as indicated by Clough, Harbour and Associates. **This has not been completed and is well overdue;**
5. Prepare and submit to the DES a written operation and maintenance plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel. **This has been completed;**
6. Complete the Emergency Action Plan (EAP). **This has been completed and is overdue for testing and updating;**

The following deficiencies were noted as a result of this inspection:

7. The brush on the upstream face of the dam appeared to have been cut earlier in the year with some regrowth;
8. Seepage was noted at the toe of the dam both on the left and right side of the low-level outlet pipe, starting approximately 50 feet from each abutment, in several locations. Obvious iron staining was observed with no migration of fines through the downstream face of the dam;
9. Both on the left and right of the overflow spillway within 10 feet of either side brush and/or small tree growth was observed;
10. On the left side of the overflow spillway it appeared that beaver debris was being stock piled;
11. Substantial seepage/leaking was observed at the downstream toe of the dike below what appeared to be a rock filled area at the left abutment. There is no record in our files as to why the area was filled with large stone; and
12. It was observed that an old stone sluiceway existed and had previously been covered with large stone to the right of the stone fill area in the left abutment. The sluiceway did not appear to be leaking. It is unclear as to what may be blocking the upstream end of the stone sluiceway.

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

**November 1, 2004:**

1. Reconfigure the low level outlet so that it may be operated by hand during emergencies as may be necessary and replace the low-level outlet pipe or possibly slip-line the pipe;
2. Update and test the Emergency Action Plan (EAP) and forward all correspondence to Bethann McCarthy, P.E. the EAP coordinator;
3. Remove the brush and small tree growth within 10 feet of the primary overflow spillway on both the left and right side;
4. Remove the stockpiled beaver debris from the left side of the primary overflow spillway and in the future to reduce/eliminate the re-introduction of this material into the downstream channel do not place debris within 30 feet of the outlet or on any other portion of the dam;

**On a Continual Basis:**

5. Maintain the brush and small tree growth from the upstream and downstream face of the dam and dike and within 10 feet of the downstream stonewall of the dam;
6. Monitor the seepage at the toe of the downstream stone retaining wall, on a continuous basis, and report to our office if significant changes occur;

7. Monitor the seepage at the toe of the dike below the rock fill and if significant changes occur contact our office as soon as possible; and
8. Monitor the old stone sluiceway at the toe of right dike for signs of deterioration and possible leaking.

The following is a chronological list of correspondence to date in regards to the repair of the low-level outlet:

1. An inspection conducted on October 31, 1990 indicated that the low-level operator was not functional. In a subsequent Administrative Order, dated December 10, 1990 it was ordered that the Hampshire School, Rindge (owner) was to repair the low-level gate lifting mechanism such that the gate could be readily operated from the top of the dam, within a period of six (6) months from the receipt of the order in addition to several other items.
2. On April 2, 1991 the DES, Water Resources Division received a letter from Peter Ray, Director of the Hampshire Country School, requesting an extension of 3 months to repair the low-level outlet mechanism. In a subsequent letter from DES an extension date for completion of the low-level outlet repairs was granted and the new completion date was set as November 1, 1991.
3. On November 19, 1991 a DES letter, dated December 18, 1991 to Mr. Ray indicated that no work had been conducted at the dam and requested a schedule within 14 days for completion of the repairs to be performed by the middle of April 1992.
4. In a letter addressed to DES dated December 22, 1991 the Hampshire Country School indicated that they had temporarily installed a "low level gate. Additionally, a permanent gate would be installed by August if conditions were conducive to the replacement of the gate.
5. On June 24, 1992 the Hampshire Country School applied to the DES, Wetlands Board for a permit to complete the associated work with the low-level outlet.
6. As part of a State wide effort to visit as many class B and C dams an inspection was conducted on April 1, 1996 at the Island Pond Dam. In a subsequent letter dated April 18, 1996, the Hampshire Country was again instructed to repair the low-level gate.
7. In October of 1996, DES was informed that the Hampshire Country School had contracted with Clough, Harbour and Associates (CHA) to conduct the necessary engineering associated with the low-level outlet repair.
8. Clough, Harbour and Associates conducted an inspection of the low-level gate section and the inside of the outlet pipe on November 21, 1996. Their recommendations included the slip lining of the outlet pipe as it flaked away while they were inspecting it in addition to the repairs associated with the low-level gate. Additionally, it was indicated that the gate consisted of 2" rotting wood planks.
9. Rob Hitchcock from CHA indicated on May 7, 1997 that the owners have opted to slip-line the low-level outlet pipe and that DES would be notified upon completion of work.

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10. In a Letter of Deficiency dated September 7, 2000 the owners were instructed to either replace the low-level outlet pipe or slip-line the pipe as well as to repair the low-level gate.

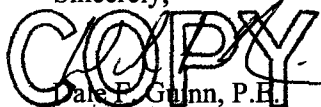
To date, as previously indicated, no work has been conducted at the low-level outlet pipe and gate. The Department of Environmental Services believes that the operation of the low-level outlet is important for the continued safe operation of this significant hazard dam. Therefore, it is time that this work be completed and if repairs are not completed by the schedule indicated or a mutually agreed upon date it is likely that the administrative fine process will be initiated.

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. Please call or write to our office if the repairs are completed ahead of the aforementioned schedule so that DES may schedule a follow-up inspection. Unless notified otherwise, DES will conduct the follow-up inspection on or after the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the bottom of the cover page.

Sincerely,

  
Dale P. Gunn, P.E.  
Dam Safety Engineer

Attachments DB8, DB13, Sketch Illustrating Deficiencies

cc: Gretchen R. Hamel, Legal Unit Administrator ✓

Town of Rindge

Bethann McCarthy, P.E., EAP Coordinator

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